Clinical Section

*Gastro-Intestinal Symptoms Associated with Diseases of the Urinary Tract

By

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Diseases of the genito-urinary tract give rise to gastro-intestinal symptoms which are of two types, namely, the acute and the chronic. The acute symptom being usually pain, and the chronic nausea, vomiting, anorexia, etc. These symptoms may be so predominant in either case as to overshadow all the complaints, if any, that might be referable to the urinary tract, and unless one is very acutely aware of the possibilities, the real source of the condition is often overlooked.

Cecil reviewed 300 cases who had had complete urological investigation, to determine the frequency of abdominal pain in association with urinary tract lesions, and found that in 28% of 76 cases of stone in the kidney and ureter, that abdominal pain was the presenting symptom; and in 20% some abdominal operation had been performed before the urinary calculi were discovered. While in a series of 26 cases of hydronephrosis 30% had abdominal operations before the source of the trouble was located. The presence of abdominal symptoms also was a confusing factor, but to a lesser degree, in many other types of urinary tract lesions in his series of cases.

Probably the symptom that causes most confusion is pain, and the presence of abdominal pain in disease of the urinary tract, particularly the kidneys, is usually explained as being due to the intimate connection of the sympathetic nerve fibres of the visceral organs and of the kidneys and ureters. To give briefly this connection: The renal plexus of nerves arise by fibres from the solar plexus, the splanchnic nerves, the inferior mesenteric ganglion and probably fibres from the vagus. These nerve fibres run along the renal arteries, anastomose freely, and in their course from several small ganglionic masses. The nerves enter the hilum of the kidney, branch with the blood vessels, and end in the glomerular capsules, tubules and between the epithelial cells. So through the superior and inferior mesenteric ganglia, the renal plexus is connected with the sympathetic nerve supply of the stomach and intestines. Anastomoses also have been shown to exist between the renal plexus and the aorticomesenteric ganglia, which supply the stomach. Animal experimentation has shown that stimulation of the sympathetic nerve fibres to the kidney and upper ureter, cause disturbances of the intestinal masculature.

The distressing symptoms of abdominal pain, associated with persistent nausea and vomiting, which occasionally occur following catheterization of the ureters, pyelography or acute obstruction from stone, are ascribed by Colby to a reflex along the intimate sympathetic connections of the kidneys, ureters and gastro-intestinal tract.

The urinary tract may give rise to gastro-intestinal symptoms in two other ways; first, they may be obstructive in character and result from the pressure of large renal tumors on adjacent structures, such as large hydronephroses, pyonephroses or neoplasms. I will also include under this heading the rarer cases where gastric obstruction or jaundice may be present, due to traction on the second portion of the duodenum and adjacent structures. Such a case was reported by Scholl. Here the patient presented with jaundice and vomiting; on the establishment of renal drainage, by means of ureteral catheterization, the jaundice and other symptoms were relieved—withdrawal of the catheter again produced the symptoms. Nephrectomy, later, gave a permanent cure of the gastro-intestinal symptoms.

Secondly, gastro-intestinal symptoms may be manifestations of a failing renal function, that is, anorexia, nausea, vomiting and epigastric pain. This failing renal function may be due to several causes, the most common being, Bright's disease and prostatic obstruction; or more rarely, bilateral pyelonephritis, bi-lateral renal tuberculosis, polycystic kidneys, etc., or any lower urinary tract obstruction. Braasch says, "when a male patient aged more than 40 years comes to the physician with headaches, loss of appetite, occasional nausea or even vomiting, with pain referred to the epigastrium, it behooves him to make a rectal examination and to determine whether there is any evidence of prostatic enlargement or other evidence of urinary retention.

I would like to present a few cases illustrating to some extent the types of gastro-intestinal symptoms produced, and how unreliable or misleading these symptoms may be when an effort is being made to ascertain the exact location of the lesion.

1.–F. H., male, aged 47.—On July 18, 1930, complained of acute pain in his lower abdomen, with nausea and vomiting. He also thought his bladder was full and catheterization showed about two ounces of urine, which contained pus 1. I had previously seen this patient and knew he had a pyuria of a few cells from a chronic prostatitis. Examination showed a temperature of 100, pulse 98. There was also very definite tenderness in the right lower quadrant, over McBurney's point, with considerable resistance f the abdominal wall.

* Read at the Post Graduate Course on Gastro-Enterology, Manitoba Medical College, February, 1936.

He was hospitalized and his white blood count was 21,000. The internist and a surgeon were called in consultation and advised operation. At operation a comparatively normal appendix was removed. The following 24 hours the patient did not void, and catheterization showed no urine to be present in his bladder. An x-ray of the kidney, ureter and bladder showed a shadow, 1x½ cm. in diameter, in the lower right ureteral area.

Cystoscopic examination showed an obstruction about 3 cm. from the right ureteral orifice, which was passed with some difficulty, and there was about 30 cc. of urine in the kidney pelvis. The catheter was left in for 48 hours. The day following its removal the ureteral calculus was passed. Cystoscopy later showed this patient to have only one kidney.

COMMENT

This case illustrates the ease that one encounters in making a wrong diagnosis, even with symptoms that should have led us on the road to a correct solution; that is, the stranguary with very little urine in his bladder.

There are probably very few surgeons who have not sometime during their career removed a normal appendix, in the presence of lesions of the right kidney, usually calculus disease. Given a case where the diagnosis of acute appendicitis is in doubt, I feel that the majority of them turn out to be calculus disease of the right kidney or ureter; but in spite of that, it is far safer to remove some normal appendices than to leave one to rupture.

This case also is of interest in that it presents one of the unusual anomalies of the urinary tract, that is, a congenital solitary kidney. This occurs, according to Ballowitz who found it present in 12 cases in a collected series of 28,423 autopsies, or 1 in about 2400 cases.

2—M. M., male aged 13. Was first admitted to the General hospital on September 16, 1931, complaining of colicky pain in the left lower quadrant associated with nausea and vomiting, he also complained of constipation. He was discharged with no definite diagnosis. On November 20, 1931, he was re-admitted with similar complaints, and on December 1, his appendix was removed and there were some adhesions separated in the left side of his abdomen. He was discharged on December 18, 1931.

On December 26, 1931, he was re-admitted with a history of going to bed the previous night with slight headache and a pain in the lower left abdomen, he wakened during the night with the pain more severe, nausea and later vomiting. He was discharged on January 7, 1932, with a diagnosis of Gastro-enteritis. On February 2, 1932, he was re-admitted with identical symptoms, and a diagnosis of Dibothrocephalus Latus was made. The worm was obtained intact. He was discharged February 6, 1932.

On February 16, 1932, he was re-admitted wit similar complaints. The history taken gives good description of his pain: "The pain is shar severe and colicky; it originates fairly repidl and subsides gradually; commencing in the lowe left abdomen, it does not radiate." He wa discharged again on February 18, 1932, with diagnosis of constipation and impacted faece During all his admission his urinlaysis was norma

On May 30, 1932, he was re-admitted with th same symptoms, but with a note from the admit ting doctor that a renal lesion was suspected. A intravenous urogram was done which showed hydronephrosis on the left side. On June 8, operated on this boy, finding a small vessel a sociated with a dense fibrous band, crossing an exerting pressure on the uretero-pelvic junctur This was ligated and cut. The pelvis immediatel decreased somewhat in size. A nephopexy wa done, and slide II shows the kidney pelvis, thre months later. This boy has been completely wel since then.

COMMENT

A more illustrative case could hardly be found where the abdominal pain caused by a renal lesio was thought to be due to many different abdom inal conditions, and one abdominal operatio performed before anyone thought of investigat ing the urinary tract. It shows clearly the im portance of never neglecting the urinary trac in all cases of abscure abdominal pain, even i the urinary findings are normal. This case i rather unusual, in that the right kidney is mor often at fault in causing abdominal symptom than the left, in that the sympathetic connectio has been demonstrated to be closer.

3—Male aged 44. Was admitted to the hos pital on April 15, 1929, complaining of haema turia, loss of weight, general ill health and dys pepsia. In August, 1928, he began having uppe abdominal distress after eating and feeling gen erally below par. This continued, and in Jan uary, 1929, he consulted an internist, who did thorough physical examination and had a Bariu series done. At that time he had lost approxi mately 15 pounds in weight. No cause for hi condition was discovered. On April 12 he passe practically pure blood from his urethra, thi blood continued and associated with it was a fre quent desire to urinate. About the second da of the haematuria he experienced difficulty i voiding, plus suprapubic pain, and at that tim had a dull aching pain in his right loin. He ha lost approximately 25 pounds in the last year.

On examination the patient had apparentl lost considerable weight, was anaemic i appearance and appeared sick. The abdomen wa slightly tender in the right upper quadrant an suprapubic area. Palpation was difficult due t resistance, but an indefinite mass was palpabl in the right upper quadrant. There was no sup rapubic dulness. The blood pressure was 13 systolic and 95 diastolic. Urinalysis showed th urine to be grossly bloody; specific gravity wa

1010; acid in reaction; there was albumen present but no sugar was found. Microscopically an occasional granular cast was seen, and there were many red blood cells. The blood urea nitrogen was 26.6 mgs. per 100 cc. of blood. The blood examination showed 4,100,000 red blood cells and 10,800 white blood cells. The haemoglobin was 70%. Roentgenograms of the kidneys, ureters and bladder were negative.

The cystoscopic examination showed the bladder to be practically filled with a well organized blood clot. This was broken up as much as possible and a considerable amount removed. Three days later, under sacral anaesthesia, the remainder of the blood clot was practically removed. The urine excreted from both ureteral orifices was clear. Indigo-carmine appeared in 4 minutes from the left side in good concentration; it appeared from the right side in 8 minutes, with about one-half of the concentration. A pyelogram done on the right side showed a marked distortion of the pelvis and calyces. Roentgenograms of the lungs, done as a routine pre-operative procedure, showed multiple metastatic growths. The patient was allowed to go home, and from there he entered a "cancer cure" institution where he stayed for over a month, but in spite of that he gradually became worse, and died in October, 1929.

COMMENT

This shows a case where the gastro-intestinal and general symptoms were the predominant feature until the haematuria appeared. Repeated questioning failed to elicit any previous history of haematuria. This patient's general examination revealed no cause for the symptoms; but coupled with his weight loss malignancy should have been suspected. In all cases where malignancy is suspected, and the source not readily discovered, the urinary tract should always be investigated — particularly the prostate and kidney.

In renal neoplasms we have what is called a triad of symptoms, namely: tumor, pain and haematuria—any one or all of these symptoms may be present, but one should never forget that in the presence of haematuria and a mass on one side, never neglect to palpate the opposite renal area, as polycystic kidneys may produce similar symptoms. The haematuria of renal tumor is total in character, usually coming on suddenly, lasting a short while only, stopping suddenly, and recurring at frequent intervals.

I would also like to emphasize the importance of pre-operative routine roentgenograms of the chest to exclude metastases. This case was apparently operable as regards the urinary tract findings.

4—W. W., male aged 23. First seen on October 4, 1930, complaining of frequency for the past eight months and some terminal haematuria for two months. At that time the general examination was negative. The urinalysis showed a considerable amount of pus, and on staining, many acid-fast bacilli were found. He and his mother were told of his condition and hospitalization for investigation was advised. On November 11, 1935, I was called and asked regarding this boy. He had been in bed for a week complaining of headache, nausea and vomiting, for which he was being treated. On being seen by another doctor his mother gave the history, that he had been told five years before by me, that he had tuberculosis of the urinary tract. On admission to the hospital his blood urea nitrogen was 215 mgs. per 100 cc. of blood. The urine showed a specific gravity of 1015, acid in reaction, albumen present, no sugar; microscopically there was pus IV and many acid-fast bacilli. His nausea, vomiting and headaches continued. On November 23, 1935, his blood urea nitrogen was 232 mgs. and his creatinine 13.3 mgs. per 100 cc. of blood. He died on November 27, 1935, in convulsions.

COMMENT

This case illustrates several points, one of which has no great scientific interest; but this boy, after being told that he had tuberculosis of the urinary tract, entered as a medical student and during his course, repeatedly stained his urine, always finding the acid-fast bacilli; but still carrying on.

Here we are dealing with the gastro-intestinal symptoms, due to a failing renal function, which were sufficient to overshadow the real diagnosis, and he was treated palliatively for a week before the real cause was discovered. This boy probably in 1930, had a unilateral renal tuberculosis, as only about 10% of the cases showing open renal tuberculosis are bi-lateral; the remaining 90% of unilateral cases are curable in about 70% of cases, by surgical intervention.

5—J. G. M., male, aged 70 years. Was referred to me on March 6, 1931, complaining of headache, anorexia, nausea, vomiting and inability to void. He gave a history of being treated for pyelonephritis and of bed wetting for the past 3 years. He had lost about 30 pounds in the past three months. The examination showed an obviously very ill and anaemic male. The deep reflexes of the legs were absent and the pupils frozen. There was almost complete retention. There was a to and fro murmur over the aortic area. The prostate was normal per rectum. The urinalysis showed a specific gravity of 1010, albumen present, no sugar; microscopically it was loaded with pus. He was hospitalized. The blood urea nitrogen was 122 mgs, and the creatinine was 6.0 mgs. per 100 cc. of blood.

COMMENT

In this case, the diagnosis of which was of course obvious and not confusing, we have another illustration of gastro-intestinal symptoms due to a failing renal function; brought on by a lesion in the posterior roots of the spinal column, with resulting palaysis of the bladder. These so-called cord bladders are often

neglected, and are at all times a difficult problem in the management of late lues of the central nervous system.

These same symptoms are not unusual in men with prostatic obstruction, although luckily not a rule so severe or advanced; but it is not unusual to see patients who complain of anorexia, constipation and dryness of the mouth, the cause of which is an early so-called chronic uraemia.

*Chronic Duodenal Stasis

By

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This is a clinical entity, not uncommon but generally overlooked; it is also described as chronic duodenal ileus or chronic duodenal obstruction; compression of the duodeno-jejunal junction between the tight root of the messentery and the lumbar spine is the most familiar cause of the duodenal statis, which, as a permanent or intermittent state, constantly accompanies the condition, whatever its origin may be.

Etiology: Most of the recorded cases, coming as they do from surgical clinics, present duodenal obstruction at the duodeno-jejunal junction; here enteroptosis is usually found, often associated with lack of supporting fat or defective bodily posture—coils of small bowel or a mobile caecum and ascending colon slip into the pelvis and drag on the mesenteric attachment so that, especially if the mesentery be short, the bowel is compressed against the spine and statis of its contents results. In other cases, Lane's Kink or chronic inflammatory thickening of the root of the mesentery is present; in still other cases, tuberculosis or even carcinomatous glands in the same position may similarly narrow the gut.

But in recent years, many other types of duodenal statis have been noted, only a few of which can be touched on here. Feldman, particularly, has described the "redundant duodenum," where the first part instead of bending down to the right and posteriorly from the cap to continue as the second portion, elongates more or less horizontally from the cap for some centimetres and is supported by the hepato-duodenal ligament before dropping abruptly into the descending portion of the duodenum. This lengthening of the superior portion may cause an anomalous looping of the gut and so give rise to duodenal stasis with sometimes associated ulceration. Again, stasis may occur about the junction of the second and third portions of the duodenum; Dr. McMillan, of Winnipeg, thinks this latter may be due to undue laxity of the duodenum in the erect position, so that the cap and descending portion sag down unduly, with resulting kinking. Congenital band and adhesions, sometimes from the gall bladde sometimes from the pancreas, sometimes connec ed with the colica media artery crossing the secon part of the duodenum, are evidently responsibl in other cases.

Weinbren has recently described a number o cases of so-called right-sided duodenum inversun in which the third part of the duodenum, instea of turning to the left and upwards, curves roun to the right and so kinks, as it comes to lie a high as or higher than the duodenal cap befor passing into the jejunum.

There is, lastly, no doubt that one form o duodenal stasis exists which is not obstructive a dilated duodenum, generally in the second par has been found repeatedly at operation by Wilki Judd and others, with no kinking or stenosis pre sent; this variety evidently results from som form or neuro-muscular derangement and is anal gous to the megacolon found in Hirschsprung disease.

Frequency: There is, of course, room for wid difference of opinion in regard to the frequenc of duodenal stasis; it can hardly be a rare con dition, as I have personally seen in private prac tice 13 cases in the last year, two confirmed a operation and the others reasonably certain fro the combined clinical and radiological examin ations. Of these 13, 11 occurred in women; th average age was 32, varying from 21 to 48 years the average weight of 7 of the number was 10 lbs., indicating sufficiently the type of individua usually the victim; the average duration of symp toms was 3½ years, ranging from 3 months to 1 years in individual cases. In 4 the appendix, an in 1 the gall bladder had been removed withou benefit. All the patients were carrying on thei duties and had not been confined to bed, excep occasionally for a few days at a time, though i several cases additional help has been necessar in the house and one man had done little for man months.

Symptoms: There seems to be little differenc in the sypmtomatology of the different types o duodenal stasis above described. Epigastric full ness and bloating, sometimes associated wit marked nausea, comes on soon, generally withi half an hour, after meals, though in three of m cases the distress did not appear till 2 to 3 hour after food, some relief being experienced by eat ing again. The fullness and discomfort last varying time, sometimes for an hour or two, ar more marked after a large or indigestible meal are helped by belching of gas and especially b lying down. Two of my patients had discovere that they got relief by kneeling in the knee-ches position and pressing with the hands below th navel in an up and back direction. The epi gastric distress sometimes amounts to a definit pain which is occasionally severe, sharp or cramp like; it may come in spells of a few days' dura tion, precipitated by overwork, worry or indi gestible large meals, but later it tends to recu practically every day.

*Read at the Summer School of the Vancouver Medical Association, June, 1935.

Regurgitation of mouthfuls of food or of sour liquid is frequent after the fullness has lasted for some time; occasionally, severe and recurring vomiting of considerable quantities of liquid, sometimes persistently bilestained, may occur at intervals of weeks, and these so-called "bilious spells" may persist for many hours or even for a day or two.

Constipation, sometimes severe, was specially noted in half my cases, though no marked relief from the epigastric distress was obtained when the bowels moved; discomfort, however, along the colon complained of by three was relieved by action of the bowels. Lack of appetite was generally present with inability to take a fair-sized meal; loss of weight was almost constantly met with, amounting to 20 lbs. on an average. Spells of diarrhœa, noted by several observers, were not met with in any of my cases.

Headache was complained of by seven; in two there was a family history of migraine; in six, the headaches antedated the digestive symptoms by many years, were mainly of the migrainous type, ending in vomiting, had become more frequent with the onset of indigestion; in one patient, daily headache had been present for 14 months. The headaches were apt to come when the patients were overtired, either from worry or overwork, but also after indigestible food and especially after sweets and chocolates. I found no evidence that animal food specially precipitated headaches, as has been claimed by some writers; in women, the headaches might be associated with menstruation but were usually independent.

All the patients complained of being tired; most were tired all the time, two only at the end of the day's work. Many were nervous, irritable and rather depressed, so that superficially they might pass readily as neurasthenics.

On *physical examination*, the patients were usually rather pale and obviously undernourished, at times quite emaciated, and the blood pressure was low. Three were noted as of normal build; all the others were obviously enteroptotic with the usual poor muscular development, long narrow chest and sagging belly. Definite fullness in the lower epigastrium and just below the navel was generally present with some tenderness; often splashing could be elicited well below the navel some hours after food. Hayes claims, by steady pressure upwards and backwards on the abdomen below the navel for some minutes, to be able to empty the duodenum into the bowel below and so to remove the distension previously obvious. It is practically impossible to make out on physical examination the dilated duodenum, though more marked sensitiveness and distension in the midline or immediately to the right of the navel may arouse one's suspicion of the condition. A test breakfast gave in every case free hydrochloric acid, within normal limits.

It should be specially emphasized that in the history, periods of comparative or absolute well-being alternated with spells of digestive distress and lassitude, justifying Friedenwald's description of chronic *intermittent* duodenal stasis with, presumably, periods in which even the x-ray would show no abnormality.

Diagnosis: A definite diagnosis can be made only by x-ray examination, but a provisional diagnosis of duodenal stasis was made in several of my cases before confirmation was sought. The combination of recurring headaches, apparently migrainous in type, with rather indefinite epigastric distress, is particularly suggestive; the history of relief obtained by kneeling in the knee-chest position or possibly by pressure below the navel may also help, especially when the age, sex and build of the patient is considered. Fullness and bloating after meals naturally suggest cholecystitis, but the slight build and youth of the average patient are against this diagnosis. In the exceptional case, duodenal ulcer is suggested by distress or pain, coming an hour or so after meals, with partial or complete relief by food; there is rarely a typical clear-cut history of attacks with complete relief in the interval, and in the attack, soda may fail to give relief, inducing, some suggest, very readily alkalosis. The possible combination of duodenal ulcer with duodenal stasis must be remembered.

Every case of obstinate migraine, especially with somewhat anomalous digestive symptoms, must be reviewed from the duodenal statis standpoint. It would seem that the old idea of intestinal intoxication, with absorption of hypothetical toxins from the colon, now largely discredited, has its justification in the frequent association of weariness, depression and headache with duodenal statis. It is well known that high intestinal obstruction with persistent vomiting will give rise to severe toxic symptoms, dehydration and altered chemistry of the blood, while Brown, Eusterman and others have reported toxic nephritis in duodenal obstruction.

X-ray Examination: In suspected cases of duodenal stasis, and indeed as a routine in order to pick out unsuspected cases, the duodenum must be examined flouroscopically both in the erect and recumbent positions, the oblique and lateral views being often particularly helpful. Too much attention has been concentrated on the duodenal bulb because of the frequency of duodenal ulcer, and too little has been paid to the rest of the duodenum. In mild cases, duodenal stasis may be obvious only in the erect position and can be readily missed, especially if fluoroscopic examination, which shows clearly antiperistaltic movements, be omitted. While variations occur in the x-ray pictures according to the different etiological factors present, it may be said in general that diatation and stasis will be demonstrable in the duodenum, with frequent peristalic and antiperistalic waves, carrying the duodenal contents forwards and backwards from pylorus to the site of interference. (Occasional antiperistalic waves may be seen over the duodenum in the normal individual, it is said.) Stasis should generally be

shown in plates taken 1½ to 2½ hours after the barium meal; usually in 5 hours, the stomach and duodenum are empty (in two of my cases there was considerable residue at 5 hours) though in marked cases requiring surgical interference, a considerable residue may remain. An irritable duodenal cap or one showing definite radiological evidence of ulcer may accompany the duodenal stasis. Visualization of the gall bladder by Graham's method will help in the differential diagnosis.

Treatment: Two of my 13 cases were operated on. One, a strongly built man of 21, had enjoyed good health till a year previously, when after severe right-sided abdominal pain with vomiting, for 12 hours, an appendix said to be "only moderately affected" was removed. Thereafter, he was nauseated after each large meal, had lost 40 lbs in weight; headaches present in boyhood had recurred nearly every day and five quite severe attacks of abdominal pain localized to the right iliac fossa had occurred, associated with gas and vomiting. An x-ray taken a few months previously missed the duodenal stasis; a second radiological examination, with duodenal stasis specially considered, showed definite stasis of the second portion of the duodenum—a finding confirmed at operation, when an inch long stump of the imperfectly removed appendix was found, with also marked dilatation of the descending portion of the duodenum, due to a tight band (? associated with the colica media artery) crossing the duodenum in this position. The patient has been very well since the operation, which involved removal of the appendix stump and a duodeno-jejunostomy.

In the other case, a duodenal ulcer with a diverticulum of the first part complicated the marked dilatation of the second portion of the duodenum; here, too, Dr. Thorlakson performed a duodeno-jejunostomy. A third patient, an emaciated, restless little woman who refused to follow medical treatment, was advised operation but went instead to visit her mother in Vancouver, where a physician was able to put her to bed, with considerable improvement in her condition. Unfortunately, I do not know if this improvement has been maintained since her return to Winnipeg.

Wilkie states that a drainage operation in cases of duodenal stasis due to a neuro-muscular derangement, without any mechanical impediment to the flow, is relatively ineffective.

The other 11 cases were treated on medical lines which naturally had to be adapted to the individual circumstances. No doubt, in most cases, six weeks' rest in bed with the foot raised 10 to 12 inches, would have been advisable, combined with a smooth feeding-up diet and the prone position, or knee-chest, after meals. But actually, unless the patients feel quite disabled, this ideal treatment is seldom practicable. Early hours, more rest in general, help in the house in some cases, lying down in the prone or knee-chest position after meals, the tilting of the foot of the bed some 10 or 12 inches, five smaller meals of th smooth feeding-up variety, liquid paraffin for th bowels, adalin or medinal for sleeplessness, brie abdominal exercises of the simple non-tiring typ possibly better adjustment to personal worrie and problems—these measures are useful in th milder cases.

In an attack of abdominal distress or pain th knee-chest position with pressure on the abdome up and backwards below the navel may help, an in severe attacks the stomach or duodenal tub may be used.

I give briefly the outline of one case with it medical treatment:

Mrs. C. G. M., age 24, seen in March, 193 Father suffered from sick headaches till abou 50. She, herself, had suffered from sick head aches since childhood, which had got much wors in the previous three months, coming every te days—first nausea, on one side or other, the head mostly over the temple, begins to ache, wit blurring of vision—sometimes the headache is s bad she could bang her head. She usually vomit after three to four hours—solid food, if present then bile; there is no pain in the spell, whic develops especially with chocolates, greasy an fried things, being quite independent of men struation. She complained also of general swell ing of the abdomen, usually within half an hou to an hour after food, lasting for half an hour o longer; there were sometimes gas pains relieve by passage of gas, mostly downwards, and ther was slight constipation.

The general physical examination then wa quite negative. She was healthy looking an youthful in manner and appearance, but tes meal was normal and a gastro-intestinal x-ray wa given as quite negative.

She reappeared in June, 1934, said that she wa quite well while carrying her only child, whic was born in June, 1933, but after that the biliou spells recurred about once in two weeks and wer very severe. She still has to avoid cabbage, ra vegetables and fried stuff to help to prevent th bloating after meals, and she finds, too, muc sweet stuff also will bring this on.

At this time it was noted that she had a rathe long narrow chest with some sagging. The gal bladder visualized normally and the duodenum was specially examined. The second portion wa found to be somewhat dilated and there was de finite "slushing" movement in the second por tion, with stasis at the junction of the second an third portions.

She had been working hard, without help, an she secured help in the house, went to bed early rested an hour and a half in the afternoon; th foot of the bed was raised ten inches, and she wa put on a smooth feeding-up diet, five smalle meals a day with no chocolates or sweets.

She was seen again at the end of March, 1935 when she had gained seven pounds in weight was feeling much better in spite of a hard winte with the baby sick and her mother ill. She kep

the maid for about four months and adhered closely to the diet till Christmas, since when she has relaxed a little. She now gets the bilious spells only once a month, independent of menstruation, and has no indigestion. It should be noted that after meals she usually lay on her stomach and that the gastric symptoms soon after meals have entirely disappeared.

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Executive Meeting

MINUTES of a Meeting of the Winnipeg Members of the Manitoba Medical Association Executive, held in the Medical Arts Club Rooms on Friday, March 6th, 1936, at 12.30 noon.

Present:

Dr. F. G. McGuinness - -	Chairman
Dr. W. G. Campbell	Dr. D. C. Aikenhead
Dr. W. E. Campbell	Dr. A. S. Kobrinsky
Dr. F. A. Benner	Dr. C. W. Burns
Dr. W. E. R. Coad	Dr. E. S. Moorhead

Guests:

Dr. T. C. Routley - - -	Toronto
Dr. A. T. Bazin - - - -	Montreal
Dr. J. D. Adamson - - -	Winnipeg
Dr. W. Harvey Smith - -	Winnipeg
Dr. G. S. Fahrni - - - -	Winnipeg
Dr. F. D. McKenty - - -	Winnipeg

Following luncheon the President called the meeting to order and advised that Dr. T. C. Routley and Dr. A. T. Bazin, who were guests at the meeting, had just returned from British Columbia and the Western Provinces, and wished to address this Executive.

Dr. Routley then addressed the meeting and advised that about three weeks ago he received a very urgent call from British Columbia in the form of several telegrams, asking for immediate help in connection with a Health Insurance Bill which was being proposed in the British Columbia Legislature. It was decided that Dr. A. T. Bazin should accompany Dr. Routley on this trip, and on arrival in British Columbia on December 24th they met the Council of the College of Physicians and Surgeons, the Executive Committee of the British Columbia Medical Association, the Health Insurance Committee of the College, and representatives from the Interior of British Columbia, to a total of approximately forty men.

The Honourable Mr. Wier, Premier of British Columbia, had introduced a draft bill of Health Insurance and published this bill for study. A Hearings Committee was appointed which sat in various parts of the Province, and this Committee reported back to the Government on its findings. Dr. Routley reviewed the highlights of the bill and stated a Commission was to be set up to administer the Act.

The outcome of the draft bill was to reduce the salary limit to $1,500, the per capita charge at $5.50 per year, and the Government to pay $50,000 towards it in one sum. The bill ultimately gave the College of Physicians and Surgeons no representation.

Dr. Routley advised he was of the opinion the bill completely lacked actuarial soundness, and the doctors were being asked to accept a measure entirely ill-defined and the result would be that they would undoubtedly be paid on the same basis. Both Doctors Routley and Bazin assailed every measure and urged postponement of the bill. They stated that the medical profession did not want it, nor does industry in British Columbia wish this extra taxation.

Dr. Routley further advised that the Canadian Medical Association, at their Annual Meeting in Atlantic City, passed a resolution strongly endorsing the Ministers of Health in Canada, and suggesting that a Royal Commission go across Canada and make a complete investigation before going into Health Insurance, advising that the feeling in Ottawa was that a Royal Commission should be able to get the desired information. The Hon. Mr. Wier felt they had all the information that was necessary and did not require a Royal Commission, as they had had an actuarial survey taken by two actuaries, and it was on their report that they based the whole bill.

Dr. Bazin addressed the meeting and stated that perhaps doctors here might feel that the Commission and the profession in British Columbia had been remiss in their duties towards the Government, and that they had failed to co-operate. However, both Dr. Routley and myself found that the profession in British Columbia were not critical of the Government or the Bill as much as they were of their Committee for not letting them know what was going on. The Committee, on the other hand, were studying the bill, and felt that they were in close touch with The Honourable Mr. Wier, they having had many conferences. The President and Registrar of the College of Physicians and Surgeons had made a tour of the province and had explained all they could to the profession, advising what the Committee was doing and how publicity might damage their final contact with the Government. They asked the members of the profession to declare themselves and leave the matter in the hands of the Committee entirely, and they got one hundred percent adhesion. The Government objected to this and stated that they were antagonistic, as matters were harmonious until after they had put in their brief. The duties of the Committee were to study the bill and present results to the profession, they presented their report to the British Columbia Medical Association and passed a resolution in favor of Health Insurance. Dr. Bazin stated he was convinced that the Committee and the profession were not fighting with the Government, but were attempting to co-operate with them in every possible way.

Dr. Routley advised that he and Dr. Bazin have to go back to Toronto and report to their Executive. They have a verbatim report of over one hundred pages setting forth the view of the British Columbia Association very clearly. He stated that there was a lesson to be drawn from all this. The Canadian Medical Association have been studying Health Insurance and finally obtained a scheme, tentative perhaps, to form a basis of Health Insurance if it is ever brought forth in any other localities in Canada. Dr. Routley advised in their visit to B.C. they have come up against realities, and this scheme will certainly have to be clarified. There are certain principles upon which it should be based. He spoke regarding indigents, who had been struck out of the British Columbia bill, and stated our studies needed to be amplified very considerably in order to have a clear definition of every one of the principles, and he cited incidents where clarification was necessary. He stated that in British Columbia they had started out with a very good scheme with certain details to be adjusted, but the whole thing had been whittled down and mutilated until it is now nothing but an indefinite obscure plan about which they know nothing of the benefits they can give.

Q.—What are the chances of the bill passing in British Columbia?

A.—The Cabinet appears to be in favor of the bill. Some of the members sit back and appear neutral, some seem to enjoy the whole thing.

Mr. Weir ran as a Liberal member and he was promised to be allowed to bring in a Health Insurance bill. He may get the bill through, but cannot see how they can possibly promulgate it and it may go into the archives.

Dr. Routley advised that the British Columbia medical act is being completely revised at the present time, making provision for federation so that the Council will collect a composite fee. He stated that if ever federation was needed, the necessity was evident in the British Columbia situation at present.

Dr. Routley advised the meeting as to the cost of relief per head in Ontario, covering only a very limited service, which is $6.27 per year, or 6.74 per year with drugs; British Columbia offered $5.50 per head to cover every essential service, and with $300,000 plans to pay this $5.50; this fund also to cover administration which is around ten percent. Dr. Routley asked Mr. Wier the reason, and he stated that the Liberals had this in its platform and it has to go through. The Minister of Finance was very much against the bill at the start, but now was simply inactive as the new draft calls for a payment of fifty to sixty thousand dollars out of the treasury in one contribution.

Dr. Routley stated that the members here would probably like to know what can be done about this; nothing directly can be accomplished, but we can at least be a little more vigil in our composite thinking in Manitoba. There may be nothing eminent in this province at the present time, but the British Columbia Bill is certainly iniquitous. The men in British Columbia are saying that they are way out in the west and are wondering what men in other provinces are saying. He suggested that we might give them our support. The Canadian Medical Association Council intends to give this more study and the Provincial Committees should study the question with respect to their own Provinces.

A general discussion followed, and Dr. W. Harvey Smith asked if an actuarial study of Health Insurance was being followed out. Dr. Routley advised that Mr. Wolfenden has already commenced this study. Dr. Routley further advised that the Canadian Medical Association were holding a meeting this coming Saturday in Ottawa, when this whole matter will be discussed for a period of two days. He stated that Dr. E. S. Moorhead would be attending this meeti and if Dr. Moorhead were fortified by this Execut with expressions of our sentiment, it might be helpf

Dr. W. E. Campbell: Q.—Have the patients in Br ish Columbia the right to choose their own doctor?

A.—Patients will have to choose the doctor in th district, and the selection must be suitable to t Commission.

Dr. F. G. McGuinness, President, remarked th this Executive might learn a lot from the discussi today, and Dr. Moorhead, being Chairman of t Sociology Committee, is more familiar with this th others, and wished to assure Dr. Moorhead, in goi East, he had the wholehearted support of this wh province.

It was moved by Dr. A. S. Kobrinsky, seconded Dr. C. W. Burns: That Dr. Moorhead be assured the wholehearted support of the province of Ma toba in connection with any assistance that could rendered to British Columbia at the present time. —Carri

Dr. Routley then spoke to the meeting with rega to Federation. He advised that Alberta had put t through and they had since sent down a list of 5 members, which is an increase of 311 in that p vince, they had collected a fee of $20.00, $8.00 which was for the Federation Treasury and $12. for their provincial fees. Dr. Routley advised th they were astounded at the number of accepted dra that had come back, and that quite a number h not even paid their fees to the College of Physicia and Surgeons. The College were collecting the mon and were paying it to the Association in quarter payments. He stated that British Columbia we ready to proceed with Federation in June, amen ments to the Act were ready and they were proceedi to the legislature and were certain that by next ye they would have the power to collect a fee.

Dr. Bazin supplemented Dr. Routley's remarks r garding this matter.

Dr. F. D. McKenty, Chairman of the Committee Federation here, replied to Dr. Routley and stat that his Committee had not yet come to any decisio but, in studying the matter personally, he stated th as far as the objective of the Association is concerne he would be entirely in support of it. Increased i fluence is evident, but there are conditions in th province which would have to be thoroughly gone int and Dr. McKenty advised his Committee intended do this at as early a date as possible.

Dr. F. D. McKenty: Q.—Have the British Columb Medical Association and the College of Physicians a Surgeons in that province merged?

Dr. Routley: A.—Yes, by statute—and they we merged two years ago.

Dr. Routley further stated that he agreed wi Dr. McKenty's remarks, and that the College Physicians and Surgeons is practically an arm of t law, they are the licensing and disciplining body the profession and have defined policies. The Medic Association, on the other hand, are more of a scie tific body and a voluntary organization.

Discussion followed as to the legality to colle the fees in Federation. Dr. Routley stated that possible it would be better to avoid the compulso attitude in collection of fees, but it is possible f the Provincial Associations to amend their respecti Acts to make it a compulsory fee, but he was n personally in favor of this being done.

Dr. Routley stated that he recently had an inte view with Lord Tweedsmuir, and was pleased report that His Royal Highness The Prince of Wale now His Most Gracious Majesty King Edward VII had consented to remain patron to the Canadian Me ical Association.

Dr. McGuinness spoke regarding the chiropractors' bill now before the House in Manitoba, and also advised Dr. Routley that our Annual Meeting had been set for May 14th, 15th and 16th. Dr. Routley was asked if speakers would be available from the East, but the time when speakers will be coming West will not be until Fall. However, if possible, this may be worked out through the King George V Silver Jubilee Cancer Fund and someone may be available. Dr. Routley further impressed the Executive that they should see that all delegates attend the Council Meeting in Vancouver.

An expression of thanks was made by the President for the attendance of Dr. Routley and Dr. Bazin at the meeting.

The meeting then adjourned.

Executive Meeting

MINUTES of a Meeting of the Winnipeg Members of the Executive of the Manitoba Medical Association, held in the Medical Arts Club Rooms, Saturday, March 14th, 1936, at 12.30 noon.

Present:

Dr. F. G. McGuinness	Dr. A. S. Kobrinsky
Dr. F. W. Jackson	Dr. D. C. Aikenhead
Dr. C. W. Burns	Dr. W. E. Campbell
Dr. W. E. R. Coad	Dr. W. G. Campbell

The meeting was called for consideration of the programme for the Annual Meeting in May.

It was moved by Dr. D. C. Aikenhead, seconded by Dr. W. E. R. Coad: That the meeting, both scientific and social sessions, be held at the Fort Garry Hotel, Winnipeg.

Dr. C. W. Burns was called upon to report on the Programme Committee, and Dr. Burns suggested that scientific sessions be held the morning of the 14th, the evening of the 14th, the morning and afternoon of the 15th, and the morning of the 16th. He suggested that the afternoon of the 14th be given over to the Annual Golf Tournament. Dr. Burns also suggested that following the golf game, previous to the evening meeting, that supper be served at the Hotel.

Some discussion took place as to the type of scientific paper to be given, and it was the opinion of the meeting that the programme as outlined by Dr. Burns, be completed.

Discussion then arose as to the appointment of the various Committees for the Annual Meeting, and it was moved by Dr. W. E. R. Coad, seconded by Dr. W. E. Campbell: That the following be the Committees for the Annual Meeting:—

Commercial Exhibits	Dr. F. W. Jackson
Scientific Exhibits	Dr. D. Nicholson, Dr. C. Walton, Dr. H. M. Edmison, Dr. Digby Wheeler
Entertainment, Dinners, etc.	Dr. Digby Wheeler with power to add
Hotel, Reception	Dr. P. H. McNulty with power to add
Finance	Dr. C. W. Burns with power to add
Publicity	Dr. C. W. MacCharles, Dr. Ross Mitchell, Dr. A. W. S. Hay
Resolutions Committee	Dr. G. S. Fahrni, Dr. F. Hartley Smith, Dr. A. S. Kobrinsky
Registration	Dr. F. W. Jackson, Dr. I. O. Fryer, Dr. R. J. Cleave

The first mentioned in each instance to be the Chairman of the Committee.

It was pointed out by members present that the Winnipeg Medical Society Annual Meeting is scheduled for the evening of May 15th, and the Secretary was instructed to write asking that this be changed to a different date.

Discussion as to the next full meeting of the Executive took place, and it was moved by Dr. W. G. Campbell, seconded by Dr. A. S. Kobrinsky: That the next full meeting of the Executive be held on March 26th. —Carried.

There being no further business, the meeting adjourned.

Notice

The Manitoba Medical Association is not getting the support that it should from the registered medical practitioners of Manitoba. Any doctor who draws relief funds has obtained this money due to the activities of organized medicine in Manitoba and carried on by the Manitoba Medical Association in medical care of the indigent.

It is felt that most doctors recognize this fact, yet have failed to give tangible evidence of their belief. Due to the early Annual Meeting in May, the Association is sending drafts to all registered doctors in Manitoba who have not paid their 1936 dues.

The Executive trusts that each member who receives a draft will honor it promptly, thus aiding the clerical work of the Association, and also the pleasant feeling that they are linking up with the Association that has been of considerable personal benefit to them.

WINNIPEG GENERAL HOSPITAL

The Board of Trustees of the Winnipeg General Hospital announce the following appointments to the Honorary Attending Staff:—

As Assistant Dermatologists

W. George Brock, M.D. (Man.)
A. R. Birt, M.D. (Man.)

As Assistant Urologists

J. L. Wiseman, M.D. (Man.)
C. B. Stewart, M.D. (Man.) F.R.C.S. (Edin.)

"If there be a calling which feels its position and its dignity to lie in abstaining from controversy and in cultivating kindly feelings with men of all opinions, it is the medical profession."—*Cardinal Newman.*

Tentative Programme

Annual Meeting . . . . Manitoba Medical Association
Winnipeg, May 14-16, 1936

THURSDAY, MAY 14th, 1936

MORNING:

8.30– 9.00—Registration.
Scientific Meeting.

9.00–10.00—Skin Clinic—Presentation of Cases.

10.00–10.30—Industry as Treatment in Mental Hospitals — Stewart Schultz, M.R.C.S., Eng., L.R.C.P., Lon
Brandon.

10.30–12.00—Clinical Pathological Conference — Prof. C. R. Gilmour and Prof. Wm. Boyd.

AFTERNOON:

1.00– 2.00—Lunch—St. Charles Country Club.

2.00– 5.30—Golf Tournament at St. Charles Country Club.

EVENING:

6.30—Dinner at Fort Garry Hotel.

8.00–10.00—Scientific Meeting.
Treatment of Knee Joint Injuries—Alexander Gibson, F.R.C.S. (Eng.).
Common Errors in Medical Diagnosis—Chas. Hunter, F.R.C.P. (Lond.).

FRIDAY, MAY 15th, 1936

MORNING:—Surgical Clinics.
Friday Morning will be devoted entirely to presentation of surgical cases with open discussion
members of the surgical staffs of the teaching hospitals of Greater Winnipeg. The first ho
will be devoted to tumour cases under the auspices of the combined tumour clinic staffs of t
St. Boniface and the Winnipeg General Hospitals.

9.00–10.15—Tumour Clinic—R. W. Richardson, M.D., Ch.M. (Man.), Chairman.

10.30–12.00—Presentation of Surgical Cases—discussion as to diagnosis, treatment, etc.
The Surgical Staffs of the Winnipeg Children's Hospital, St. Boniface Hospital and the Winnip
General Hospital will be present.
Two separate clinical sessions will proceed simultaneously.

AFTERNOON:—Medical Clinics.
The programme will be entirely medical, under the Chairmanship of Prof. C. R. Gilmour.

Tentative Subjects:

(1) Pernicious Anæmia.
(2) Hypertension.
(3) Hypoglycæmia.
(4) Common Disorders of Childhood.

(Definite Programme and Speakers to be announced later)

EVENING:—Annual Dinner and Dance at Fort Garry Hotel.

SATURDAY, MAY 16th, 1936

MORNING:—Scientific Meeting.

9.00– 9.30—Erysipelas in Children—Gordon Chowne, F.R.C.P.(C.).

9.30–10.10—Golden Rules in Obstetrics—Brian Best, M.D. (Man.), Killarney, Man.
Discussion opened by W. S. Peters, M.D. (Man.), Brandon, Man.

10.10–11.00—The Treatment of Fractures from the standpoint of the General Practitioner—C. K. Cunningha
M.D. (Man.), Carman, Man.
Discussion opened by W. A. Gardner, F.R.C.S.(C.).

11.00–11.30—Injection Treatment of Hernia—T. E. Holland, F.R.C.S. (Edin.).

11.30–12.00—Treatment of Trigeminal Neuralgia—Oliver Waugh, F.R.C.S.(C.).

The original papers are to occupy twenty minutes. The official speaker will be allowed from fi
to seven minutes. The remaining time will be occupied by discussion from the floor, which w
hope will be open and free.

Ladies' Entertainment Committee

Tentative Programme

THURSDAY, MAY 14th

4.00– 6.00—Afternoon Tea at the home of Mrs. F. G. McGuinness, 61 Cordova Street, Winnipeg.

FRIDAY, MAY 15th

1.00—Wives of the Retiring Executive will be guests of Mrs. McGuinness at a Luncheon to be held a
the Manitoba Club, at 1.00 p.m.

7.00—Annual Dinner and Dance at Fort Garry Hotel.
Other arrangements are being made.

MULTIVITE PELLETS

A new product of considerable interest Physicians has just been issued by The Brit Drug Houses Limited—Multivite Pellets.

These embody a distinct achievement in field of pharmaceutical manufacture, in that fat soluble Vitamins A and D have been combi with the water soluble Vitamins B Complex C in the form of an elegant and palatable pell

The embodiment of this group of Vitamins the form of a small pellet of high concentrat is a unique achievement of considerable impo ance in medicine.

Multivite Pellets contain:

Vitamin A .....3,000 International Units
Vitamin C ..... 100 " "
Vitamin D ..... 600 " "
Vitamin B_1 and B_2 the equivalent of 2 gram of distiller's yeast.

Multivite Pellets provide a ready means overcoming a general deficiency of this group vitamins, a deficiency which, while it may not so serious as to cause a specific disease such rickets or scurvy, is sufficiently widespread undermine physical fitness; usually it manife itself in a proneness to colds, influenza, tonsilli and similar infections; there is also a loss appetite with an accompanying listlessness and general ill-defined feeling of being 'out of sor and 'below par.'

Multivite Pellets are chocolate-coated and palatable; they are packed in a suitable contain for carrying in the pocket or handbag. —Ad

THE SCHOOL-CHILD'S BREAKFAST

Many a child is scolded for dullness when he shou be treated for undernourishment. In hundreds homes a "continental" breakfast of a roll and coff is the rule. If, day after day, a child breaks t night's fast of twelve hours on this scant fare, sm wonder that he is listless, nervous, or stupid at scho A happy solution to the problem is Pablum, Mea Cereal cooked and dried. Six times richer th fluid milk in calcium, ten times higher than spina in iron, and abundant in vitamins B and G, Pablu furnishes protective factors especially needed by t school-child. The ease with which Pablum can prepared enlists the mother's co-operation in servi a nutritious breakfast. This palatable cereal requir no further cooking and can be prepared simply adding milk or water of any desired temperatur Its nutritional value is attested in studies by Crim et al who found that tuberculous children receivi supplements of Pablum showed greater weight-ga greater increase in hemoglobin, and higher seru calcium values than a control group fed farina.

Mead Johnson and Company of Canada, Ltd., Be ville, Ont., Canada will supply reprints on reque of physicians. —Ad

Department of Health and Public Welfare

NEWS ITEMS

EAR CONDITIONS FROM THE PREVENTIVE STANDPOINT

Edmund Price Fowler, M.D., New York City.

The following is the second half of Dr. Fowler's report on "Ear Conditions from the Preventive Standpoint." The first portion of the report appeared in last month's issue of "The Review."

TREATMENT

Preventive treatment varies with age and the time element in disease, but it is usually thought of in terms of hygiene and prophylaxis.

HYGIENE AND PROPHYLAXIS

A healthy auditory and respiratory apparatus needs no treatment. Hands off and a little common sense as to diet, clothing and environment is all that is indicated. Avoid head infections and excessive exposure to the elements, swimming under water, or to sudden air pressure changes. Ninety-nine per cent of all ear disease originates in the upper respiratory tract, but unless this is subnormal it is a mistake to curtail any of the moderately indulged pleasures of youth, because such are a part of normal activity. If here and there someone falls by the wayside it is just too bad, but surely no reason for setting up a taboo for all the others. It may seem a paradox, but on the average the healthiest are those who take a few chances in the enjoyment of work and play.

It is nonsense to instruct patients to blow the nose only with both nostrils open. If one nostril is not closed, twice the effort is required to free the secretions, because there is twice the loss of air pressure through two nostrils that there is through one.

Blow the nose with the head held forward, closing first one nostril and then the other, and using just enough to force it clear. This places the Eustachian tubes in a more vertical position and makes it impossible to trap fluid in the middle ear, unless the drum membrane is perforated, in which case, and with very flabby drums, little or nothing can be sucked into the middle ear because of insufficient vacuum therein. I demonstrated this experimentally twenty-five years ago. The "head forward" position eliminates one of the bête noires of many who are in fear of blowing infection into the ear. If the nose contains fluid, allow this to drain before forcibly blowing the nose.

Snuffing is innocuous unless there be infectious material in the nasopharynx, in which case if one forcibly sucks air from the tube and deflates the middle ear, the middle ear will act like a perforated rubber ball squeezed under water. Upon release it will suck up any fluid over or in its opening. This is the way in which infectious material in the nose or from sea, lake, or swimming pool water is drawn into the middle ear.

All noses contact bacteria and diseased noses harbor many, so that the infectious material which is most likely to be harmful is that in the noses of those who do the snuffing. It is more abundant and virulent here than in the cold water of lake or sea. Anyone with infection of the ears or nose, or other parts of the body, is a potential source of infection when bathing near other people and should therefore be prohibited from bathing in swimming pools.

DIET

Under, over or improper nourishment affects the body unfavorably and may lower resistance to ear infection as to other infection. Schools in the poorer neighborhoods show on the average more otorhinological conditions than those in better locations, but ordinarily diet alone does not play an important part in the etiology of ear conditions. Excessive sweets and starches, lack of vitamins A, B, D and G, and variations of Ph. are believed capable of bringing about edema and lowered resistance of the nasal membranes. Idiosyncrasy plays an important role, not only with foods but with many other contacts, and is dependent largely upon immunity, anaphylactic and allergic reactions. Allergy is often correlated to ear conditions because of superimposed infections in the nose spaces. Sensitive babies may be started upon their allergic and otologic lives by the inhalation of dusting powders containing (as they often do) vegetable and mineral irritants.

Smoking may be indulged in by some with impunity; others cannot smoke a single cigarette without developing violent reactions. Tinnitus and vertigo are frequently caused in whole or in part not only by ear conditions, but by tobacco, alcohol, and other poisons such as caffeine, quinine, arsenic, and lead. Intestinal or other toxemias may influence the onset and the course of ear disease, as of other diseases, but in my opinion are rarely a primary cause of suppurative otitis. Diseased, dead, maloccluded, and even absent teeth often play a major role in certain ear disturbances.

EXPOSURE

Exposure to cold and drafts is a real cause for lowered resistance to nose, throat and ear infection. There is no preventive treatment of much permanent value, except avoiding exposure, especially after sweating, building up resistance, and clearing up chronic low-grade infections in the nose, throat, teeth, and elsewhere.

CLOTHING

Improper clothing will accentuate the effects of exposure, fatigue, and improper nourishment. One of the causes for hypertrophied tonsils and adenoids is improper clothing. We are apt to forget that the smaller a body the greater the proportional surface thereof, so that an adult half clothed is less proportionately exposed to the elements than the three-quarter clothed baby. The barbarous habit of hanging the poor infant out of the window on winter nights seems to have passed. This will diminish the adenoid crop. The persistent nudist urge in regard to babies is quite all right in the tropics, but in high latitudes I defy the average adult to go about with as little on as many babies are allowed and especially to sit on the floor in dusty and drafty doorways and beneath windows, and escape without at least the preliminary symptoms of a cold in the head.

NASAL CLEANSING AND TREATMENT

Nasal sprays and douches are rarely warranted in preventive treatment. They may prove as dangerous as diving or submerging the head under water, especially when used by the patient as a routine procedure. Their antiseptic action is slight, unless they are strong enough to be positively harmful. Moreover, they gravitate to the floor of the nose and usually bathe the membranes which are least subnormal, and do not reach the sites where infection tends to lodge. Their main use is in disease and depends largely upon the shock of application, and upon temperatures (hot or cold) which contract and massage the erectile tissues. They may be beneficial in re-establishing vasomotor tone. They do act as a spanking of the tissues, and a proper spanking has been known to do good.

Anything which contracts the Schneiderian membrane crowds the cilia by diminishing the expanse of the area, squeezes the tissues and forces the embedded mucus, serum and pus enmeshed in glands

and cilia to the surface where the stagnant film may be more readily evacuated. Ephedrin in proper strength is valuable for this purpose. Unfortunately it is often used to excess and then may act more to block drainage than to aid it. Two drops of a 3 per cent solution properly placed is better than 10 drops distributed all over the nasal mucosa.

Plus and negative gentle air pressure changes may be produced alternately by the patient, by breathing deeply, in and out, through the partially closed nose. This maneuver aids sinus evacuation far better than either blowing or suction alone. To aid drainage of the maxillary sinus, place first one cheek and then the other uppermost to bring the ostea alternately into dependent positions. Do not use strong suction. because strong suction defeats its purpose by swelling the membranes and closing the sinus openings. If any sinus is healthful its cilia will evacuate fluid without the aid of gravity. During the exanthemata and with head infections babies should be placed frequently and alternately upon their sides and bellies and have the head raised to facilitate sinus and ear drainage.

There is one comparatively safe position of the head for nasal douching or nasal instillations, i.e., slightly forward. This position hinders the blowing of secretion into the middle ear but cannot prevent its being sucked up if it is over the mouth of the tube. Therefore, do not violently clear the nose for four or five minutes after douching.

All the sinuses are covered by mucous membrane, with cilia currents moving toward the openings into the nose. The ostea vary in size but all are small and easily occluded by thick secretions or edema. Even long holding of the breath will cause congestion and tend to close the ostea momentarily. If congestion continues the swollen portals will take on a ball valve action. This is common in allergy where the swelling and vacuum not only interfere with cilia action, but convert the normally aerobic cavity into an anaerobic cavity, with all the implications which this entails.

Menthol sprays give a pleasant feeling of cool contact with the inspired air, but unfortunately only a feeling of freer breathing, because the nose is not really opened under their influence. Oily solutions, no matter how finely nebulized, may interfere with ciliary action, but are useful to protect a hypersensitive membrane from air-borne irritants, unless these be soluble in oil. In my opinion properly made colloidal suspensions are best fitted for use in the nose, because they are more easily handled by the cilia than any other solutions except normal saline. Colloidal silver nasal packs give a sense of relief in nasal blockage from turgescence of the turbinates, but should be used with discrimination to avoid argyria and destruction of cilia.

Medical and surgical prophylaxis is directed against infection in the nose and throat, and therefore also against those diseases which are apt to be accompanied by tonsillitis or rhinopharyngitis and otitis, such as measles, scarlet fever, diphtheria, whooping-cough, influenza and pneumonia.

The mere presence of hypertrophied tonsils, adenoids or other pharyngeal lymphoid tissues is no excuse for removal unless ear disease threatens. After otitis or recurrent tonsillitis, removal is the safe procedure. To cure a suppurating ear or any of its complications by treatment or operation, and to neglect the primary cause of the otitis is to court disaster.

On a large scale when indicated, adenoid removal is probably the most important single preventive measure, because it removes a potential source of trouble, opens up the breathing channels and usually builds up resistance far better than vaccines, vitamins, or diets, useful supplementary measures though these may be.

TREATMENT DURING EAR CONDITIONS

Treatment after the onset of ear conditions sh be curative as to the lesions and preventive a chronicity, complications, and loss of function. O disease attacks the ear the otologist uses two m preventive strategems.

1. Aid to the natural forces for early recovery preservation of function.

2. Removal of causes which tend to continue repeat the episode.

This is not primarily a treatise on the the peutic or surgical treatment of disease, and so I not discuss at length the measures necessary to th and control infection, but all such are in a real preventive measures. Early detection, diagnosis differential diagnosis of the extensions and compl tions place the physician in a position to anticip arrest and defeat the varying phases of the ba between bacteria and host.

The statement that "in acute otitis nothing can done except to incise the drum and wait" is not wh true. Too often things are allowed to drift because no dangerous symptoms supervene. Di trous results frequently follow apparently mild The patient may be "cured" but function rem imperfect or be totally destroyed. It may then too late to do anything about it.

Adequate drainage is usually obtainable by an incision of the drum membrane if it has not b established by spontaneous rupture. If not procura by way of the drum opening, mastoidectomy is next step to obtain it. The mastoid operation sho be used not as a last resort, but as a prevent a g a i n s t chronicity, extensions, recurrence complications.

The necessity for repeated incisions of the dr usually indicates an extension of the disease. Sud cessation of middle ear suppurations is a sign that pus may be finding escape by way of the Eustach tube or into the tissues about the ear. Operation establish adequate drainage is the only prevent treatment of value in such cases.

Early steroscopic roentgenograms are most use as diagnostic aids when used in comparison w earlier and subsequent pictures, so that the progr or resolution of the lesions may be detected.

COMPLICATIONS OF OTITIS MEDIA

Otitis media invariably involves more than middle ear proper. The cells in and about zygoma, mastoid, Eustachian tube and the petr pyramid are contiguous to or extensions from middle ear spaces, and the paths through these str tures by continuity of tissue or by way of the bl or lymph channels are the paths leading to mastoidi labyrinthitis, petrositis, sinus and jugular phleb and thrombosis, epidural and brain abscess, mening and facial paralysis.

The mastoid should not be operated upon mer because there is an indication of involvement. every suppurative otitis media there is some invol ment of the mastoid cells. This usually clears coincidentally with the otitis and the nose or si suppurations which were the primary causes of t trouble. If drainage is insufficient it does not cl up, and then and then only, should it be open after sufficient time has elapsed to establish a g local and general defense reaction. Hasty surge instead of preventing extensions and complicatio often causes them by overwhelming the tissues w infection before they are prepared to meet it. operation performed at the proper time assures uneventful recovery unless the virulence of the fection is too much for the stamina of the patie and even in such cases premature operation does avoid complications. The mastoid operation is dicated primarily for drainage and there is seldo

assion to perform it if good drainage is otherwise tablished.

A properly timed and executed mastoidectomy is a ajor measure for prevention of the complications ost dangerous to function and to life.

OTHER COMPLICATIONS OF OTITIS MEDIA

Few people die from petrositis although like mas- iditis it is a common accompaniment and complica- on of suppurative otitis media. Preventive treat- ent is the same as for mastoiditis, because the origins f these two diseases are usually similar, i.e., suppura- on in the cellular bone about the middle ear and eustachian tube, which latter is always to be thought as a part of the middle ear. Operative procedures r petrositis are undertaken primarily to procure nd maintain drainage from the involved areas. sually a thorough, simple mastoidectomy will suffice ot only for the mastoid disease but for the petrous isease as well. At autopsy we find many petrous nd mastoid bones showing healed lesions, which ave required no operation whatsoever.

In my opinion, petrosotomy should not be accom- alished blindly with dental or other burrs, but openly long the paths of infection. These tracts being sually in the more cellular areas are larger, more irectional and easier to enter, evacuate and drain an the hard, smaller and less directional tracts of ninvolved bone. There are instances where, because f bloodborne infection or because the original path- ays of infection about the middle ear have healed nd left an abscess pocketed in the tip, when the urgeon cannot be guided by the ostetic or osteomye- tic tracts. Such instances are rare. There will be ss operative petrositis or intracranial complications f ear disease with proper treatment of the otitis edia and mastoiditis.

AFTER TREATMENT

After the battle is over, the patient like the oldier, is loath to continue fighting unless the enemy gain attacks. The sense of relief is so satisfying hat for a time it may mask the residual functional efects, but as chronicity is established these become nore and more apparent and less and less can be one to correct them. One imagines or hopes that here will be no progressive increase in the deafness, nd that it may be better to let well enough alone. his attitude is often fatal. The condition is not well enough" and there will usually be a progressive ncrease in deafness. I have graphs covering from ve to ten years of hundreds of cases of all types of eafness. On the average the hearing shows progres- ive loss with time and lack of preventive treatment, specialy marked in the chronic and recurrent cases. his is a fact, not merely an opinion. If the residual eafness is due to any variety of nerve involvement he only treatment is removal of the cause.

All the measures suggested for prophylaxis may be sed in after treatment but all will be less efficient s chronicity, exacerbations or recurrences take place. Moreover, it is the exacerbations and recurrences, ften without compelling symptoms, which produce nost of the serious intracranial complications of ear isease.

POISONOUS DRUGS

Certain commonly used drugs, especially quinine, he salicylates and arsenicals; tobacco, alcohol, and affeine, are capable of precipitating deafness. aution is required to determine whether the drug s a causative or merely a coincidental factor in the eafness. Diagnosis is often difficult unless made arly. If made late, stopping the drug serves merely o avoid further damage. Animal experimentation ith these drugs has not as yet given much useful herapeutic information, but idiosyncrasy, dosage, nd the duration of exposure are important causative actors. Many seem relatively immune to these oisons.

FACIAL PARALYSIS

Facial palsy is a common and sometimes unavoidable complication of ear disease and of operative procedures upon the ear. With proper training it should become less frequent. Early treatment of the otitis and careful technique in operations and early nerve surgery are the preventive measures of choice. The examination and techniques advocated by DUEL, especialy early decompression of the nerve by slitting its swollen sheath, are the best for prevention of permanency.

If it is impossible to approximate the ends of a severed nerve, a graft properly prepared and applied, preferably from the external superficial cutaneous nerve of the thigh, is used to reestablish continuity. The graft furnishes a guide for the regeneration, which proceeds from the proximal stump and grows along and within the graft (or the degenerate nerve if the latter was left in situ). Unless operation is too long delayed permanent facial paralysis may be thus prevented.

HEARING AIDS

Proper hearing aids are invaluable in avoiding the effects of defective hearing in the same sense that eyeglasses avoid the defects of defective eyesight. They make possible social, educational, and recreational contacts otherwise unobtainable, and rescue the hard of hearing from a world of isolation, depression, resentment and introspective brooding. Careful tests will determine the power and frequency characteristics required for each individual. The present mass production of hearing aids is about as logical as would be mass production of unfitted eyeglasses. The time is approaching when a hearing aid may be scientifically fitted to the wearer's requirements.

LIP READING

Lip reading should be acquired, not only by the very hard of hearing, but by all who are threatened with progressive deafness. Since it includes eye and mind training, it is a useful adjunct even to the normally hearing ear. Training in speech, speech habits and lip reading should be begun in preschool years. It cannot be started too early as has been demonstrated by the nursery schools for speech and hearing. If training is not started very early the physical, mental, and social growths and adjustments will show a decreasing increment with age in comparison with the normally hearing child. These measures are mandatory from the preventive standpoint.

PSYCHOLOGY

No otologist is fit to practice unless he studies each case from the psychological standpoint. Often this is the only real service he can render. He will find the social services of the leagues for the hard of hearing of definite value in promoting healthy mental reactions in these patients as well as their general social and economic adjustment. If there is no league in his community he should see to it that one is established. The American Society for the Hard of Hearing at Washington, or the local leagues, may be used for information and service.

Study not only the psychology of the child but of the parents and family toward the child. The hard of hearing child may be saved much suffering and led into a happy and useful life by patient teachers and parents properly trained.

COMMUNICABLE DISEASES REPORTED

Urban and Rural - February, 1936.

Measles: Total 1895—Winnipeg 1044, St. James 185, St. Boniface 76, Kildonan East 53, Flin Flon 49, St. Vital 49, Transcona 42, La Broquerie 32, Boissevain 25, Unorganized 25, Macdonald 24, Fort Garry 23, Kildonan West 16, Thompson 13, Ritchot 12, Virden 12, Dauphin Town 9, St. Clements 9, St. Paul East 9, Whitewater 8, Hanover 7,

Communicable Diseases Reported—Continued

Springfield 7, Wallace 7, Coldwell 6, Louise 3, Morton 3, Brandon 2, Charleswood 2, Grey 2, Tuxedo 2, Assiniboia 1, Brooklands 1, Cartier 1, Dauphin Rural 1, Kildonan North 1, Lac du Bonnet 1, Rhineland 1, Rosser 1, Selkirk 1, Siglunes 1, Swan River Town 1, St. Francois Xavier 1, Whitemouth 1, Woodworth 1, Late Reported: St. Boniface 39, Hanover 25, Flin Flon 24, Kildonan West 8, Transcona 8, Kildonan East 5, St. James 4, Lac du Bonnet 3, Dauphin Town 2, Rosser 2, Wallace 2, Cameron 1, Eriksdale 1, Springfield 1.

Scarlet Fever: Total 254—Winnipeg 150, Roblin Rural 14, St. Vital 11, Harrison 9, St. Clements 6, Unorganized 6, Winnipegosis 6, Kildonan West 5, Rosedale 4, St. Boniface 4, Carman 2, Ethelbert 2, Flin Flon 2, Grandview Rural 2, Kildonan East 2, Louise 2, Manitou 2, Woodlands 2, Charleswood 1, Franklin 1, Hanover 1, Napinka 1, Roland 1, Selkirk 1, Silver Creek 1, Swan River Town 1, St. James 1, Transcona 1, Late Reported: St. Clements 8, Eriksdale 1, Lansdowne 1, Rosser 1, Shoal Lake Village 1, St. Boniface 1.

Mumps: Total 230—Winnipeg 103, Dauphin Town 29, St. Clements 17, Unorganized 14, Kildonan East 8, Cameron 7, St. Boniface 6, Dauphin Rural 5, Transcona 4, La Broquerie 3, Victoria 3, Roland 2, St. James 2, St. Vital 2, The Pas 2, Kildonan West 1, Roblin Village 1, Rosser 1, St. Andrews 1, Woodlands 1, Late Reported: Eriksdale 5, Cameron 4, Rosser 3, St. Boniface 3, Kildonan East 2, Transcona 1.

German Measles: Total 122—Rosser 39, Whitewater 21, Brooklands 16, Rockwood 7, Woodlands 7, Brandon 6, St. Boniface 6, Kildonan West 4, Winnipegosis 4, Stonewall 3, Macdonald 2, Swan River Town 2, St. James 2, Swan River Rural 1, Woodworth 1, Late Reported: Pipestone 1.

Chickenpox: Total 94—Winnipeg 49, Flin Flon 14, St. Boniface 6, Norfolk North 4, St. Vital 3, Woodworth 3, Brooklands 2, Portage Rural 2, St. James 2, Brandon 1, Fort Garry 1, Kildonan East 1, Lac du Bonnet 1, Transcona 1, Tuxedo 1, Late Reported: St. Boniface 3.

Typhoid Fever: Total 75—Winnipeg 11, Unorganized 10, Woodlands 7, Wallace 3, Flin Flon 2, Fort Garry 2, Morris Rural 2, Louise 1, St. James 1, Late Reported: Pipestone 29, Unorganized 3, Boulton 1, Hamiota Village 1, Kildonan East 1, St. Boniface 1.

Tuberculosis: Total 57—Winnipeg 13, Unorganized 4, Kildonan West 2, Killarney Town 2, Portage City 2, St. Andrews 2, St. Clements 2, The Pas 2, Boulton 1, Brandon 1, Brokenhead 1, Coldwell 1, Flin Flon 1, Franklin 1, Hanover 1, Hillsburg 1, Manitou 1, Morris Rural 1, Mossey River 1, Norfolk South 1, Portage Rural 1, Riverside 1, Roland 1, Rosedale 1, Stonewall 1, Strathcona 1, Swan River Rural 1, St. Boniface 1, St. James 1, St. Laurent 1, St. Paul West 1, Transcona 1, Tuxedo 1, Whitemouth 1, Winchester 1, Woodworth 1.

Influenza: Total 49—Winnipeg 13, Whitewater 5, Unorganized 4, Flin Flon 2, Mossey River 2, Shellmouth 1, St. James 1, Late Reported: Flin Flon 7, Pipestone 2, St. Boniface 2, Unorganized 2, Hanover 1, Cypress North 1, Pembina 1, Rosedale 1, Shellmouth 1, Tache 1, Westbourne 1, Woodworth 1.

Diphtheria: Total 16—Winnipeg 10, Fort Garry 4, Brandon 1, La Broquerie 1.

Typhoid Fever: Total 11—Siglunes 3, St. Francois Xavier 3, Cartier 2, Portage Rural 1, Late Reported: St. Francois Xavier 2.

Diphtheria Carriers: Total 7—La Broquerie 6, Rivers 1.

Erysipelas: Total 5—Winnipeg 3, Brandon 1, St. Boniface 1.

Cerebrospinal Meningitis: Total 1—Minto 1.

Puerperal Fever: Total 1—Grandview Town 1.

Septic Sore Throat: Total 1—Winnipegosis 1.

Venereal Disease: Total 101—Gonorrhoea 70, Syph 31.

DEATHS FROM ALL CAUSES IN MANITOB/
For the Month of January, 1936.

URBAN—Cancer 48, Pneumonia 27, Influenza Tuberculosis 10, Syphilis 3, Lethargic Encepha 2, Measles 2, Scarlet Fever 1, Whooping Cough all other causes 182, Stillbirths 15. Total 313.

RURAL—Influenza 28, Cancer 22, Tuberculosis Pneumonia 13, Whooping Cough 2, Congenital Diphtheria 1, Erysipelas 1, Syphilis 1, all ot causes 165, all other causes under one year Stillbirths 14. Total 270.

INDIAN—Tuberculosis 18, Pneumonia 3, Influe 1, Whooping Cough 1, all other causes 4, Stillbi 1. Total 28.

Annual Meeting Programme

The Committee are making every effort to provide a practical programme. Clinical presentations are displac the usual didactic papers. We hope all members will make a special effort to be present for the entire meeti

THURSDAY, MAY 14th, 1936.

8.30- 9.00 a.m.—Registration.

9.00-10.00 a.m.—Scientific Meeting. Chairman, W. S. Peters, M.D. (Man.)
Skin Clinic, Presentation of Cases, A. M. Davidson, M.R.C.P. (Edin.), Geo. V. Bedford, M.D. (Man.)

10.00-10.30 a.m.—Industry as applied to Treatment in Mental Hospitals.
Stewart Schultz, M.R.C.S., Eng., L.R.C.P., (Lond.), Brandon.

10.30-12.00 a.m.—Clinical-Pathological Conference—Prof. C. R. Gilmour and Prof. Wm. Boyd.

1.00- 2.00 p.m.—Lunch. St. Charles Country Club.

2.00- 5.30 p.m.—Golf Tournament. St. Charles Country Club.

6.30 p.m.—Dinner. Fort Garry Hotel.

8.00-10.00 p.m.—Scientific Meeting. Fort Garry Hotel. Chairman, D. C. Aikenhead, M.D.
1. Treatment of Knee Joint Injuries—Alexander Gibson, F.R.C.S. (Eng.).
2. Common Errors in Medical Practice — Chas. Hunter, F.R.C.P. (Lond.).
3. Tuberculosis as a Public Health Problem — E. W. Montgomery, M.D., Hon. LL.D.

FRIDAY, MAY 15th, 1936.

9.00-12.00 a.m.—Surgical Clinics. Under the di tion of C. W. Burns, F.R.C.S. (Friday morning will be devoted tirely to presentation of surg cases by members of the surg staffs of the teaching hospitals Greater Winnipeg. The first h will be devoted to tumour ca

9.00-10.15 a.m.—Tumour Clinic. Chairman, R. Richardson, M.C., Ch.M. (Ma During this hour tumour cases be presented by M. R. MacChar F.R.C.S. (Ed.), A. W. S. Hay, F C.S. (Ed.), J. D. McQueen, F.R.((C.) and others. Discussion, P J. A. Gunn and Prof. Wm. Boy

10.30-12.00 a.m.—General Surgical Clinic.
Sect. A—Chairman, G. S. Fah F.R.C.S. (C.).
Sect. B—Chairman, P. H. T. Th lakson, F.R.C.S. (C.).
Clinical cases to be presented discussed as to diagnosis, tre ment, etc. Two separate clin sessions, "A" and "B," will proc simultaneously, so that visitors n see and examine and take part the discussion if they desire. presentatives of the Surgical St of the Winnipeg General, Childr and St. Boniface Hospitals will

Fort Garry Hotel, Winnipeg . . . . . May 14-15-16, 1936

sent cases and lead in the discussion.

12.15- 2.30 p.m.—Annual General Meeting.
Lunch, Fort Garry Hotel. Presidential Address, F. G. McGuiness, F.R.C.S. (C.).

2.30- 5.00 p.m.—Scientific Meeting.
Chairman—Prof. C. R. Gilmour.
The programme will be entirely medical.
1. Convulsions in Hypertensive States—Lennox G. Bell, M.R.C.P. (Lond.).
2. Hypoglycaemic — Chas. Walton, M.D. Discussion, Prof. C. R. Gilmour.
3. Nervous Symptoms and Disturbances of the Menstral Cycle. Gilbert Adamson, M.R.C.P. (Ed.).
4. Kidney Conditions Complicating Pregnancy. A. Hollenberg, M.D. (Man.).
5. Treatment of Syphilis. Geo. Brock, M.D. (Man.), M.S. (Minn.).

7.30 p.m.—Annual Dinner and Dance. Fort Garry Hotel.

SATURDAY, MAY 16th, 1936.

9.00- 9.40 a.m.—Scientific Meeting.
Golden Rules in Obstetrics. Brian Best, M.D. (Man.), Killarney, Man. Discussion opened by W. S. Peters, M.D. (Man.), Brandon.

9.40-10.20 a.m.—The Treatment of Fractures from the standpoint of the General Practitioner. C. K. Cunningham, M.D. (Man.), Carman. Discussion opened by W. A. Gardner, F.R.C.S. (C.).

10.20-11.00 a.m.—Injection Treatment of Hernia. T. E. Holland, F.R.C.S. (Edin.). Discussion opened by B. J. Brandson, M.D., F.R.C.S. (C.).
The original papers are to occupy twenty minutes.

11.30-12.00 a.m.—Treatment of Trigeminal Neuralgia —Oliver Waugh, F.R.C.S. (C).

LADIES' PROGRAMME

Afternoon Tea—4.00 to 6.00 p.m., Thursday, May 14th. The Ladies' Committee of the Manitoba Medical Association will serve tea at the home of Mrs. F. G. McGuinness, 61 Cordova Street, Winnipeg.

Luncheon—1.00 p.m., Friday, May 15th. Wives of the Retiring Executive will be guests of Mrs. McGuinness at a Luncheon to be held at the Manitoba Club.

Annual Dinner and Dance—7.00 p.m., Friday, May 15th, at the Fort Garry Hotel.

Other Functions—A tour of the University will be arranged for those interested. Golf games will also be available at various golf courses.